

It is Applicants contention that the present invention is patentable over Zeh (US 2002/0103331), Robinson (US 4339371), Chen (US 5763530) or Schaper (EP 277 728).

**REMARKS:**

The Office Actions states that each of the cited documents individually teach water soluble copolymer compositions comprising nonionic polymer segments and cationic polymer segments where the molar % ratios are within the claims range. The Office Action further explains that the documents may not expressly teach the product to be prepared by the process recited in the claims, the product is the same as or an obvious variant of, the presently claimed product absent evidence that the particular process of making results in materially different product. Patentability of the product does not depend on the method of the production. The Office Action further states that if the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.

The Office Actions draws a correlation between the references and Applicant's invention resulting in the conclusion that Applicants invention is not patentable with respect to the references. Applicant respectfully disagrees with the conclusion of the Office Action. These references do not teach the polymers of the Applicant's invention.

Applicant's invention **requires** an emulsification surfactant consisting of at least one **diblock or triblock** polymeric surfactant (see claim 1) wherein the amount of the diblock or triblock surfactant to monomer is at least 3:100. The diblock or triblock surfactant (A-B or A-B-A surfactant) is the primary surfactant of the system. (see page 9-10, paragraphs 0034-0035).

With respect to reference Robinson (US 4 339 371)

The col. 1, line 54 – col. 2, line 9 of Robinson describes the primary surfactant of Robinson. This description is NOT that of an A-B-A surfactant as required by applicant's invention. Indeed Robinson uses a [Xa-Yb Xa-Yb Xa-Yb Xa-Yb Xa-Yb]x

(where x is a minimum of 5 repeats) where col. 1, lines 55-65, as the primary surfactant. This is NOT by definition an A-B-A block surfactant. The essential ingredient in Robinson is the polymeric surfactant having the minimum of 5 repeat units (col. 8, lines 19-24). Hence reference Robinson does not describe Applicant's invention.

With respect to reference Chen (US 5763530)

Chen does not teach the use of a diblock (A-B) or triblock (A-B-A) surfactant in the emulsification system. Chen teaches the use of Sorbitan monooleate, polyoxyethylene sorbitan monooleate, polyoxyethylene sorbitan trioleate, and polyoxyethylene sorbitan fatty acid, none of which are by definition a diblock or triblock surfactant. Since Applicant's invention requires a diblock or triblock surfactant, Chen does not describe Applicant's invention.

With respect to reference Zeh (US 2002103331)

Zeh does not teach the use of a diblock (A-B) or triblock (A-B-A) surfactant in the emulsification system. Zeh teaches the use of Sorbitan monooleate, polyoxyethylene sorbitan monooleate, neither of which is by definition a diblock or triblock surfactant. Since Applicant's invention requires a diblock or triblock surfactant, Zeh does not describe Applicant's invention.

With respect to reference Schaper (EP 277 728)

Schaper does not teach the use of a diblock (A-B) or triblock (A-B-A) surfactant in the emulsification system. Schaper teaches "any conventional emulsifying surfactants can be used" (see page 4, lines 43-44 of Schaper). Since Applicant's invention requires a diblock or triblock surfactant, Schaper does not describe Applicant's invention.

With respect to similar parameters

It is well known in the art that the type of surfactant chosen can effect the entire emulsion system and hence the final product. See for example reference US 4 339 371 column 1 lines 42-54. The surfactant affected solids content, the mechanical stability, stability with respect to sedimentation and inorganic salt breaking. See also

US patent 5,298,555 col 2, line 34-53 and col. 5, lines 18-25, describing a emulsifier system that affects high solids and stability. A copy of US patent 5,298,555 is attached for the Examiner's convenience.

It is Applicants contention that the prior art does **not** teach the identical or similar process as the present invention. The prior art does not teach the use of the diblock (A-B) or triblock (A-B-A) surfactant as the primary surfactant, in the ratio claimed (greater than 3:100), to make cationic or amphoteric polymer. The use of the diblock (A-B) or triblock (A-B-A) surfactant results in polymers different than those cited in the references and is required by Applicants invention.

For the reasons cited above the Applicant contends that the present invention is patentable over Zeh (US 2002/0103331), Robinson (US 4339371), Chen (US 5763530) or Schaper (EP 277 728), it is respectfully requested that the rejections be reconsidered and withdrawn.

It is submitted that the foregoing reply is completely responsive under 37 CFR 1.111 and that all grounds of rejection and objection have been completely overcome or obviated. It is submitted that all claims are now in condition for allowance and a notice of allowance for all pending claims is respectfully requested.

If there are any questions or comments regarding this paper or the present application, Examiner is invited to contact the undersigned at the below listed telephone number

Respectfully submitted,



Joanne Rossi  
Reg. No. 43,061  
Attorney for Applicant  
302-594-5833

Hercules Incorporated  
Hercules Plaza  
1313 North Market Street  
Wilmington, DE 19894-0001  
US